



ROAD SAFETY AUDIT SEMINAR NOTEBOOK

August 1999
Institute of Transportation Engineers
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ROAD SAFETY AUDIT SEMINAR

**Sponsored by the
Transportation Safety Council
Chair Richard Retting, MITE**

**Organized by
Professor Frank Navin, P.Eng, FITE,
Road Safety Group, Civil Engineering
University of British Columbia**

**Sany Zein, P.Eng, MITE,
Hamilton Associates,
Vancouver, BC**

**Mark Norman, PE, FITE,
ITE Headquarters**

**INSTITUTE OF TRANSPORTATION ENGINEERS
1999 ANNUAL MEETING,
Las Vegas, Nevada,
August, 1999**

Road Safety Audit Seminar

The Institute of Transportation Engineers (ITE) is an international educational and scientific association of transportation and traffic engineers and other professionals who are responsible for meeting mobility and safety needs. The institute facilitates the application of technology and scientific principles to research, planning, functional design, implementation, operation, policy development and management for any mode of transportation by promoting professional development of members, supporting and encouraging education, stimulation research, developing public awareness, and exchanging professional information, and by maintaining of a central point of reference and action.

Founded in 1930, the Institute serves as a gateway to knowledge and advancement through meetings, seminars, and publications, and through our network of more than 15,000 members working in some 80 countries. The Institute also has more than 70 local and regional chapters and more than 90 student chapters that provide additional opportunities for information exchange, participation and networking.

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FINAL PROGRAM

ROAD SAFETY AUDIT SEMINAR

5 August 1999

1999 ITE ANNUAL MEETING

Las Vegas Nevada, August, 1999

S-No	Time	Subject	Instructor
1	0830-0840	Introduction and Scope	Prof. Navin
1	0840-0905	What is RSA, Stages	Prof. Navin
2	0905-1000	Management of RSA	Sany Zein
3	1000-1015	Refreshments	
4	1015-1100	Feasibility/Design Audits	Tim Pieples, (Sany Zein)
5	1100-1200	Legal Issues with RSA	Sheldon Pivnik
	1200-1300	LUNCH, on you own	
6	1300-1345	RSA Team/Inservice Audits	Phil Jordan, (Sany Zein)
7	1345-1430	Detailed Design Audit Exercise (10 teams of 5)	Prof Navin, Sany Zein, Tim Pieples, Phil Jordan, Thomas Ho, Sheldon Pivnik, Gerry Forbes
8	1430-1500	Exercise (Usual Problems)*	Prof. Navin, Thomas Ho
	1500-1545	Selected Presentations	Prof. Navin and others
9	1545-1610	Audits of Design Build Projects	Gerry Forbes, Sany Zein
10	1610-1640	RSA Advances and International Outlook	Prof. Navin, Phil Jordan, Tim Pieples
11	1640-1700	Evaluation/Closure	Phil Jordan

* UK material provided by Steve Proctor, TMS Consultancy (UK)

Contact List for the RSA Seminar 1999

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RESUMES

Dr. Frank Navin, P.Eng, FL-ITE

Professor of Civil Engineering
University of British Columbia
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Vancouver BC V6T 1Z4
Canada

Professor Navin has directed road safety research at the Department of Civil Engineering since 1979. He was Coordinator of the UBC Accident Research Team for more than 15 years. Over his 20 years of concentration on road safety he has directed about \$4,000,000 of research, graduated about 20 Masters and 5 PhDs and had 5 international exchange students work on projects. Currently he has projects in Canada and Thailand.

Professor Navin helped make operation the Traffic Conflicts technique during the 1980s. The technique is now used for intersection safety studies by the Insurance Corporation of British Columbia. Many of the elements of that technique have been adopted by State Farm Insurance for their road safety studies.

Much of Professor Navin's research has been directed towards in field experimental work. He has directed over 100 vehicle crashes into other vehicles, road side barriers, truck under ride, and fixed barriers. Additional experiments of car and truck braking have been carried out on; steep down grades, snow and ice, sanded snow and ice, wet pavements, oiled surfaces. He has also conducted braking tests of trucks with varying amounts of load and braking capability. In addition Professor Navin has carried out many well-documented experiments to simulate truck rollovers

Professor Navin has been a leader to introduce Road Safety Audits into Canada. He conducted one of the first audits carried out in North America. He was also a committee member of the Ontario Professional Engineer's Highway 407 Safety Review. He has represented Canadian interests at the International Road Safety Audit Forum held in Melbourne Australia. He has taught Road Safety Audit courses in Canada and the United States.

Professor Navin has more than 100 publications dealing with various aspects of road safety ranging from detailed geometric design issues to policy oriented.

Dr. Navin is active in the ITE and other professional associations in Canada and the United States dealing with road safety. He is a member of the board of many road safety associations.

Professor Navin can be reached at navin@civil.ubc.ca, or called at 604-822-3158.

Sany R. Zein, M.Eng., P.Eng.

One-Page Resume

- Vice President, Hamilton Associates, providing road safety engineering services world-wide
- Vice President, Synectics Transportation Consultants, providing road safety engineering services in Ontario
- Vice President, Hamilton-Finn Road Safety Consultants, providing road safety engineering services in Alberta
- Involved in road safety engineering projects and road safety program development since 1989
- Hamilton Associates' Project Manager for the Insurance Corporation of British Columbia's Award Winning Road Improvement Program
- Conducted initial North American research into Road Safety Audits in 1996
Directed first road safety audit in North America in 1997 Co-authored Introducing Road Safety Audits Discussion Paper in 1998 Has since directed design safety audits in British Columbia, Alberta, and Ontario
- Has conducted and directed more than 200 operational safety reviews (in-service audits) at the intersection and corridor level since 1989
- Author or co-author of a multitude of papers, paper presenter at more than 10 conferences, lecturer at several courses and seminars, regular guest lecturer at the University of British Columbia

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Thomas Ho, P.Eng.

One-Page Resume

- Vice President of Engineering & Senior Road Safety Auditor, Hamilton Associates, providing municipal and highway engineering and road safety engineering.
- Involved in road safety engineering projects and road safety programs since 1989.
- Completed Austroads International Road Safety Audit Course in Melbourne, Australia, 1998.
- Has participated on more than 100 operational safety reviews (in-service audits) at the intersection and corridor level since 1989.
- Has conducted major highway corridor and interchange safety audits at the preliminary, functional, 50% and 100% design stages in British Columbia and Alberta, and other highway safety audits in Ontario and the Maritime Provinces in Canada.
- Co-author of two papers:

Road Safety Audit in Canada - Early Success Stories, 1999
Safety of Steep Downgrades, 1996

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PHILLIP JORDAN

Phillip is the Principal Road Safety Engineer at VicRoads in Melbourne, and is the holder of a Bachelor degree in Civil Engineering and a Master of Engineering Science degree.

He has worked in Great Britain on two occasions, including the early 1990's when he led the implementation of road safety audit in Oxfordshire. Upon his return to Australia he became the Project Manager for the AUSTROADS Road Safety Audit project which led to the production of the well known AUSTROADS Road Safety Audit guidelines.

He has led workshops on the road safety audit process in New Zealand, Great Britain, South Africa, Canada, Singapore and all states of Australia. Phillip was the initiator and Chair of the first International Road Safety Audit Forum, held in Melbourne in 1998. He is a member of the ITE Committee dealing with the "Implementation of Road Safety Audit in the United States", he chairs the ITE Committee on the "Promotion of Road Safety Audits", and he is a member of PIARC Committee WG13 on road safety audit.

An advocate of greater international co-operation and networking in the road safety engineering profession, Phillip is pleased to be able to promote the road safety audit process as a high benefit/low cost and universally essential road safety process.

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Education

New York City Community College AAS (Electrical Technology)
Feb 1953

University of Miami BBA in Business Management
Aug. 1973

University of Miami JD in Law
May 1977

Licenses

Registered Professional Engineer Florida
Admitted to
The Florida Bar
U S District court for the Southern District of Florida
U S Court of Appeals for the 11th Circuit

Military Service

U S Army 1954-56

Experience

Legal & Engineering Consultation 1983-Present
Chief, Traffic Signals & Signs Division
Miami-Dade County Public Works Department 1981-1996
Division Head - Systems Division
Miami-Dade County Traffic Department 1971-1981
Assistant Chief - Bureau of Signals, Communication &
Computer Control - NYC Department of Traffic 1969-1971
Director of Division of Signal Planning - NYC Department of
Traffic 1968-1969
New York City Department of Traffic
Traffic Signal Specialist
Travers Associates - Engineering Consultants - 1968
Director of Division of Signal Operations NYC Department of
Traffic 1967-1968

Professional Societies

Fellow-Life - Institute of Transportation Engineers
Member - Florida Bar
Member - Dade County Bar Association

Gerry J. Forbes, M.Eng., P.Eng.

One-Page Resume

- Senior Manager, Synectics Transportation Consultants Inc , providing transportation and road safety services primarily in the province of Ontario, Canada
- Special Lecturer in Transportation Engineering at McMaster University in Hamilton, Ontario, Canada
- Involved in transportation engineering since 1987, with an emphasis on road safety since 1989.
- Project Engineer on the Safety Review of the Highway 407 East and West Extensions (RFP Stage) for Canadian Highways International Corporation
- Project Manager for one of the first safety audits conducted on a road maintenance activity, "Safety Audit of Roadway Striping Operations for the Ontario Ministry of Transportation"
- Author or co-author of several papers including articles published in ITE Journal, Transportation Research, and ITE Compendiums from Annual Meetings
- Member of the Professional Engineers of Ontario, the Institute of Transportation Engineers, (including the Expert Witness Council and the Transportation Safety Council), the Transportation Association of Canada, the Society of Automotive Engineers, and the Canadian Association of Road Safety Professionals (Corporate Membership).

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TIMOTHY R. PIEPLES, P.E.

Presently is Pennsylvania's Department of Transportation (PENNDOT) Engineering District 10 Traffic Engineer: responsible for all facets of traffic engineering, including Safety, Traffic Control Studies, Signing, Pavement markings, Work Zone Traffic Control, Traffic Signals, and Risk Management. Held this position for the past three years. Previously was the District's Highway Safety Engineer for 13 years and also spent one year as a Construction Manager and one year as the District's Maintenance Manager.

Graduated from the Pennsylvania State University in 1980 with a B.S. Degree in Civil Engineering and immediately began employment with PennDOT.

Associate member of the Institute of Transportation Engineers.

Resides in Indiana, Pennsylvania. Married; and has two beautiful young daughters.

Loves to golf.

ITE ROAD SAFETY AUDIT SEMINAR

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Selected References

- Fredericton-Moncton Highway Safety Review for the Functional Design Stage*** ***R-1***
Sany Zein and Thomas Ho
- PennDOT's Road Test of the Safety Audit Process (summary article and Full report)*** ***R-28***
Timothy Pieples
- Road Safety Audit: A New for Accident Prevention*** ***R-62***
ITE Technical Committee 4S-7, Kenneth Ogden, Chair
- Safety Audit Checklists*** ***R-69***
- Road Safety Audits in Canada Early Success*** ***R-101***
Frank Navin, Sany Zein, Thomas Ho
- Road Safety in Europe, September 21-23 1998 Designing with Safety in mine*** ***R-110***
Steve Proctor, Martin Belcher, Stever Lawson, Bert Morris
- Highway 407 Safety Review: Observations and Impact*** ***R-117***
Frank Navin